

CLAIMS

1. An information recording apparatus comprising:

a recording device for irradiating an information recording medium
5 with laser light and for recording information onto the information recording medium;

an obtaining device for obtaining at least one of (i) a special OPC
strategy for defining a waveform of the laser light used to calculate, at the
first recording speed, an optimum laser power of the laser light for recording
10 the information at a second recording speed different from a first recording
speed, and (ii) a recording strategy for defining a waveform of the laser light
used to record the information at the second recording speed;

a power calculating device for calculating the optimum laser power by
using the special OPC strategy at the first recording speed; and

15 a controlling device for controlling said recording device to record the
information at the second recording speed, by using the calculated optimum
laser power and the recording strategy.

2. An information recording apparatus comprising:

20 a recording device for irradiating an information recording medium
with laser light and for recording information onto the information recording
medium;

a first power calculating device for calculating, at a first recording
speed, a first optimum laser power of the laser light for recording the
25 information at the first recording speed, by using an usual OPC strategy for
defining a waveform of the laser light used to record the information at the

first recording speed; and

a second power calculating device for calculating, at the first recording speed, a second optimum laser power, by using a special OPC strategy for defining a waveform of the laser light used to calculate the second optimum laser power of the laser light for recording the information at a second recording speed different from the first recording speed.

3. The information recording apparatus according to claim 1, wherein said power calculating device calculates the optimum laser power by recording a test-writing pattern for calculating the optimum laser power, and the special OPC strategy makes the waveform of the laser light for recording the test-writing pattern at the first recording speed, shorter than the waveform of the laser light for recording the information at the first recording speed.

4. The information recording apparatus according to claim 2, wherein said second power calculating device calculates the second optimum laser power by recording a test-writing pattern for calculating the second optimum laser power, and

the special OPC strategy makes the waveform of the laser light for recording the test-writing pattern at the first recording speed, shorter than the waveform of the laser light for recording the information at the first recording speed.

5. The information recording apparatus according to claim 3, wherein the special OPC strategy makes a percentage to shorten the waveform of the

laser light for recording the test-writing pattern having a relatively short length, larger than a percentage to shorten the waveform of the laser light for recording the test-writing pattern having a relatively long length, on the basis of a length of the test-writing pattern recorded on the information
5 recording medium.

6. The information recording apparatus according to claim 4, wherein the special OPC strategy makes a percentage to shorten the waveform of the laser light for recording the test-writing pattern having a relatively short
10 length, larger than a percentage to shorten the waveform of the laser light for recording the test-writing pattern having a relatively long length, on the basis of a length of the test-writing pattern recorded on the information recording medium.

15 7. The information recording apparatus according to claim 1, wherein the second recording speed is faster than the first recording speed.

8. The information recording apparatus according to claim 2, wherein the second recording speed is faster than the first recording speed.

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9. The information recording apparatus according to claim 1, wherein an amplitude of the waveform defined by the special OPC strategy is the same as an amplitude of the waveform defined by the recording strategy.

25 10. An information recording method comprising:
a recording process of irradiating an information recording medium

with laser light and of recording information onto the information recording medium;

an obtaining device for obtaining at least one of (i) a special OPC strategy for defining a waveform of the laser light used to calculate, at the first recording speed, an optimum laser power of the laser light for recording the information at a second recording speed different from a first recording speed, and (ii) a recording strategy for defining a waveform of the laser light used to record the information at the second recording speed;

a power calculating process of calculating the optimum laser power by using the special OPC strategy at the first recording speed; and

a controlling process of controlling said recording device to record the information at the second recording speed, by using the calculated optimum laser power and the recording strategy.

11. An information recording method comprising:

a recording process of irradiating an information recording medium with laser light and of recording information onto the information recording medium;

a first power calculating process of calculating, at a first recording speed, a first optimum laser power of the laser light for recording the information at the first recording speed, by using an usual OPC strategy for defining a waveform of the laser light used to record the information at the first recording speed; and

a second power calculating process of calculating, at the first recording speed, a second optimum laser power, by using a special OPC strategy for defining a waveform of the laser light used to calculate the second

optimum laser power of the laser light for recording the information at a second recording speed different from the first recording speed.

12. A computer program for record control to control a computer provided
5 for the information recording apparatus according to claim 1, to make the computer function as at least one portion of said recording device, said obtaining device, said power calculating device and said controlling device.

13. A computer program for record control to control a computer provided
10 for the information recording apparatus according to claim 2, to make the computer function as at least one portion of said recording device, said first power calculating device and said second power calculating device.

14. An information recording medium comprising:
15 a data recording area to record therein information; and
a control area to record therein at least one of (i) a special OPC strategy for defining a waveform of the laser light used to calculate, at the first recording speed, an optimum laser power of the laser light for recording the information at a second recording speed different from a first recording
20 speed, and (ii) a recording strategy for defining a waveform of the laser light used to record the information at the second recording speed.

15. An information recording medium comprising:
a data recording area to record therein information; and
25 a control area to record therein at least one of (i) an usual OPC strategy for defining a waveform of the laser light used to record the

information at the first recording speed and (ii) a special OPC strategy for defining a waveform of the laser light used to calculate the second optimum laser power of the laser light for recording the information at a second recording speed different from the first recording speed.